***CLASS COPY – DO NOT WRITE ON***

CW: Parallel Lines and a Transversal Pt. II

**Geometry**

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| 1) In the figure below, line segments *a*  and *b* are parallel and they are intersected by line segment *c*. What is the relationship between 4 and 5?     1. *m*4 = *m*5 2. *m*4 *m*5 3. *m*4 + *m*5 = 90 4. *m*4 + *m*5 = 180 5. Cannot be determined from the given information | 2) In the figure below, lines l and m are parallel. Which of the following angles does not have a measure of 75?   1. 1 2. 2 3. 3 4. 4 5. 5   5  1  2  4  3  *l*  105o  *m*  75o  Why does angle 3 have a measure of 75**°**? |
| 3) If 1 5, then which pairs of lines, if any, must be parallel?     1. *a b* only 2. *m n* only 3. *a b* and *m n* 4. No lines must be parallel 5. Cannot be determined from the given information | 4) If 7 5, then which pairs of lines, if any, must be parallel?     1. *a b* only 2. *m n* only 3. *a b* and *m n* 4. No lines must be parallel 5. Cannot be determined from the given information |

In the following problems. Solve for the missing angle measure indicated. You must list any/all angle properties you use along the way!

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| 5) In the figure below, lines *a* and *b* are parallel, and 9 = 130.  (a) How many transversals are there?  (b) Find 1. | 6) In the figure below, lines *p* and *q* are parallel, and 5 = 55.  (a) How many transversals are there?  (b) Find 8. |
| 7) In the figure below lines *a* and *b* are parallel, and 2 = 145. Find the measure of 11.     1. 35 2. 55 3. 145 4. Cannot be concluded from given information | 8 ) In the figure below, 10 = 110. Find the measure of 3.     1. 10 2. 80 3. 110 4. Cannot be concluded from given information |
| 9. In the figure below, lines *l* and *m* are parallel. Find the indicated angle. What angle relationships did you use to solve?  40  ?  *l*  120 o o  *m* | 10) In the figure below, 1 3, and 7 = 140. Label the congruent angles. Find the measure of 2. Explain how you reached your answer. |

Challenge Problem

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| 11) In the figure below, segments *MA* and *HT* are parallel. HMA, MAT, ATH, and THM are all right angles. If 5 = 65, what is the 4?  2  5  6  3  7  4  1  H  T  M  A | 12) In the figure below, segments *MA* and *HT* are parallel. HMA, MAT, ATH, and THM are all right angles. If 2 = 70 and 6 = 90 what is the 5?    2  5  6  3  7  4  1  H  T  M  A |

The sum of the interior angles of any triangle is \_\_\_\_\_\_\_\_\_\_\_. You can also use that knowledge to solve for missing angles.

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| 13) Find the measure of the indicated angle. | 14) Find the measure of the indicated angle. |